

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm Name: Leggett

Operator Well No. : Eight (8)

LOCATION: Elevation: 972 Quadrangle: Oxford 7.5
 District: Central County: Doddridge
 Latitude: 39.23851 Feet South of 39 Deg. 14 Min. 18.6 Sec.
 Longitude: 80.86228 Feet West of 80 Deg. 51 Min. 44.2 Sec.

Company: KEY OIL COMPANY
 22 GARTON PLAZA
 WESTON, WV 26452

Casing & Tubing Size	Used In Drilling	Left In Well	Cement Fill Up Cu Ft
11"	32'	32'	Sanded In
9-5/8"	464'	464'	160 sks. CTS
7"	1988'	1988'	300 sks. CTS
4-1/2"	5347'	5347'	300 sks. ETOC 1800'

Agent: Jan E. Chapman

Inspector: Dave Scrannage

Permit Issued: 9-05-11

Well Work Commenced: 10-05-11

Well Work Completed: 10-13-11

Verbal Plugging N/A

Permission granted on: 9-30-11

Rotary X Cable Rig

Total Depth (feet) 5417'

Fresh water depths (ft) 110' & 180'

Salt water depths (ft) 1000'

Is coal being mined in area (Y / N)? No

Coal Depths (ft): None

OPEN FLOW DATA Alexander 5118-5234
 Benson & Riley 4782-4927
 Bradford 4522-4590
 Balitown 3758-3860

Producing formation Warren Pay zone depth (ft) 3364-3426

Gas: Initial open flow 113 MCF / D Oil: Initial open flow Show Bbl / D

Final open flow 888 MCF / D Oil: Final open flow 2 Bbl / D

Time of open flow between initial and final tests 24 Hours

Static rock pressure 1550 psig (surface pressure) after 24 Hours

All Formations Comingled.

Second producing formation Pay zone depth (ft)

Gas: Initial open flow MCF / D Oil: Initial open flow Bbl / D

Final open flow MCF / D Oil: Final open flow Bbl / D

Time of open flow between initial and final tests Hours

Static rock pressure psig (surface pressure) after Hours

Received
Office of Oil & Gas

OCT 22 2014

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: KEY OIL COMPANY

By: 

PRESIDENT

Date: October 24, 2011

17-06041

Leggett #8 (47-017-06041)

TREATMENT:

Alexander	(22 holes) 5118-5234	sand, water and N2: 31,000# 20/40 sand, 382,000 SCF N2 178 bbls. water
Benson & Riley	(21 holes) 4782-4927	sand, water and N2: 35,500# 20/40 sand, 413,000 SCF N2 194 bbls. water
Bradford	(20 holes) 4522-4590	sand, water and N2: 35,000# 20/40 sand, 350,000 SCF N2 200 bbls. water
Balltown	(21 holes) 3758-3850	sand, water and N2: 35,000# 20/40 sand, 355,000 SCF N2 200 bbls. water
Warren	(23 holes) 3364-3426	sand, water and N2: 29,000# 20/40 sand, 286,000 SCF N2 182 bbls. water

FORMATIONS:

Sand & Shale	0'	1940'
Little Lime	1940'	1980'
Shale	1980'	1980'
Big Lime	1980'	2030'
Injun	2030'	2100'
Sand & Shale	2100'	2280'
Weir	2280'	2400'
Shale	2400'	2680'
Gordon	2680'	2690'
Shale	2690'	3340'
Warren	3340'	3450'
Sand & Shale	3450'	3750'
Balltown	3750'	3900'
Shale	3900'	4500'
Bradford	4500'	4590'
Shale	4590'	4780'
Riley	4780'	4880'
Shale	4880'	4920'
Benson	4920'	4930'
Shale	4930'	5115'
Alexander	5115'	5235'
Shale	5235'	5417'
TD		5417'

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 087 - 04018 County Roane District Curtis
Quad Penie /0538 Pad Name _____ Field/Pool Name _____
Farm name Monk Well Number #1
Operator (as registered with the OOG) Longhorn Hydrocarbons LLC
Address 3152 Parkway City Pigeon Forge State TN Zip 37863

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing _____ Easting _____
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 710 GL Type of Well ☐ New ☒ Existing Type of Report ☐ Interim ☒ Final
Permit Type ☐ Deviated ☐ Horizontal ☐ Horizontal 6A ☐ Vertical Depth Type ☐ Deep ☐ Shallow
Type of Operation ☐ Convert ☐ Deepen ☐ Drill ☐ Plug Back ☐ Redrilling ☐ Rework ☒ Stimulate
Well Type ☐ Brine Disposal ☐ CBM ☐ Gas ☒ Oil ☐ Secondary Recovery ☐ Solution Mining ☐ Storage ☐ Other _____
Type of Completion ☒ Single ☐ Multiple Fluids Produced ☒ Brine ☐ Gas ☐ NGL ☒ Oil ☐ Other _____
Drilled with ☐ Cable ☐ Rotary

Drilling Media Surface hole ☐ Air ☐ Mud ☐ Fresh Water Intermediate hole ☐ Air ☐ Mud ☐ Fresh Water ☐ Brine
Production hole ☐ Air ☐ Mud ☐ Fresh Water ☐ Brine
Mud Type(s) and Additive(s) _____

Date permit issued 07/06/2010 Date drilling commenced NA Date drilling ceased NA
Date completion activities began 07/05/2010 Date completion activities ceased 07/11/2010
Verbal plugging (Y/N) NA Date permission granted NA Granted by NA

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft _____ Open mine(s) (Y/N) depths _____
Salt water depth(s) ft _____ Void(s) encountered (Y/N) depths _____
Coal depth(s) ft _____ Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) _____

Office of Oil & Gas

OCT 22 2014

Reviewed by: _____

87-04018W

WR-35
Rev. 8/23/13Page 2 of 4

API 47- _____ Farm name _____ Well number _____

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production		4"	800'	New	j55 10.5 lbs		Yes
Tubing							
Packer type and depth set							

Comment Details Inserted 800' of 4" casing, cts, attempted gas gun stimulation 920', result was not good, no apparent stimulation.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production	Class A					0'	8
Tubing							

Drillers TD (ft) _____ Loggers TD (ft) _____

Deepest formation penetrated _____ Plug back to (ft) _____

Plug back procedure _____

Kick off depth (ft) _____

Check all wireline logs run ☐ caliper ☐ density ☐ deviated/directional ☐ induction
☐ neutron ☐ resistivity ☐ gamma ray ☐ temperature ☐ sonic

Well cored ☐ Yes ☐ No Conventional Sidewall Were cuttings collected ☐ Yes ☐ No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

WAS WELL COMPLETED AS SHOT HOLE ☐ Yes ☐ No DETAILS _____WAS WELL COMPLETED OPEN HOLE? ☐ Yes ☐ No DETAILS _____WERE TRACERS USED ☐ Yes ☐ No TYPE OF TRACER(S) USED _____

Well number #1

PERFORATION RECORD

[illegible]

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

[illegible]

Please insert additional pages as applicable.

API 47- 087 - 04018

Farm name **Monk**

Well number #1

PRODUCING FORMATION(S)

DEPTHS

	TVD	MD

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ☐ Open Flow

OIL TEST ☐ Flow ☐ Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
 _____ mcfpd _____ bpd _____ bpd _____ bpd ☐ Estimated ☐ Orifice ☐ Pilot

LITHOLOGY/
FORMATION

TOP	DEPTH IN FT	NAME TVD
-----	-------------	----------

BOTTOM
DEPTH IN FT
TVD

TOP
DEPTH IN FT
MD

BOTTOM
DEPTH IN FT
MD

DESCRIBE ROCK TYPE AND RECORD QUANTITY AND
TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)

[illegible]

Please insert additional pages as applicable.

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company _____
Address _____ City _____ State _____ Zip _____

Stimulating Company _____
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Eric Mose Telephone 865-287-6108
Signature [Signature] Title Managing Partner Date 01/27/2014

Submittal of Hydraulic Fracturing Chemical Disclosure Information **Attach copy of FRACFOCUS Registry**